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A Study of Infection Control Procedures in Dentistry between Guangzhou and Hong Kong

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Appendix 1 - Public Health Project Questionnaire

Appendix 2 - Public Health Project Questionnaire: Summary Report

ABBREVIATIONS

GZ	Guangzhou
HK	Hong Kong
GZH	Dental hospitals of Guangzhou
PPDH	Prince Philip Dental Hospital
DSA	Dental surgery assistant

1. ABSTRACT

The aim of our study was to investigate the various aspects of infection control procedures in Dentistry between Guangzhou and Hong Kong hospitals and general practices. A comparison was then made regarding the similarities and differences in procedures and whether they were adequate. A questionnaire was made based mainly on the Infection Control Guidelines set up by HKDA (1992). This questionnaire was then used during the interviews, and site visit were made. In Hong Kong, a total of 51 dentists and 6 DSAs were interviewed. Due to various constraints, 5 dentists and 3 DSAs were interviewed in Guangzhou. Various aspects of infection control were ventured into, including staff, vaccination status, infection control procedures, before, during and after patient treatment, aseptic storage, clinical hygiene, etc. During this study, we got lots of feedback from practitioners and after careful analysis, we are able to suggest improvements in the field of infection control for the future. We also would caution our patients to be careful when seeking dental treatment in Guangzhou as we felt that their infection control procedures were of a lower standard than what is recommended internationally. On the other hand, Hong Kong dentists should reinforce and pay a greater attention to their infection control procedures. We feel that the Hong Kong Dental Association and Hong Kong Dental Council can play a bigger role in this.

2. INTRODUCTION AND PURPOSE OF STUDY

In recent years, more and more mainland Chinese are emigrating or coming to Hong Kong for work. At the same time, many more Hong Kong people are travelling to China, either for social or employment purposes. Due to an increased level of education and increased status of living, many more people are now receiving dental treatment for various reasons while in China.

A high level of infection control is an important criterion for good dental service. A lot of emphasis has been placed on infection control in the dental curriculum nowadays. This is especially important in the Aids era^{1,2} and also for the fact that we now know how easily infectious diseases e.g. Hepatitis B and other blood-borne viral pathogens can be spread in a dental environment³. It is very important to avoid cross-contamination among patients as well as between patients and staff³. There is a great emphasis on universal precautions as a clinical safeguard for maximum protection³. Many patients may be asymptomatic or even unwilling to tell the clinician about any condition he is suffering from due to a perceived threat of treatment refusal by the clinician.

In 1992 the Hong Kong Dental Association (HKDA) listed out some infection control guidelines^{4,5} for their members. Other dentists who are not members of the HKDA may not be aware of such guidelines as the Hong Kong Dental Council (HKDC) has not set up their own guidelines. These dentists might have their own set of guidelines or are following guidelines set by other dental bodies eg. the American Dental Association (ADA)⁶. Hence there might be some inconsistencies in infection control measures amongst dentists. As the HKDC doesn't have its own set of guidelines it is unable to take any action against the registered dentists. The Prince Philip Dental Hospital has also set up its own guidelines⁷. For this study we will use the HKDA infection control guidelines^{4,5} as a standard.

We seek to investigate the infection control measures as well as their adequacy in Hong Kong and Guangzhou. We can then evaluate the present situation and suggest further improvements in the future to attain optimal infection control when providing dental service. We are also in a better position to give advice to patients who would want to have dental treatment in China.

3. OBJECTIVES

In this project we had the following objectives: To

1. Study infection control measures of general dental practices and dental hospitals in HK;
2. Study infection control measures of general dental practices and dental hospitals in Guangzhou;
3. Compare infection control measures between Hong Kong and Guangzhou;
4. Give information to the general public about the differences;
5. Investigate the limitations of achieving ideal infection control procedures;
6. Study the feedback from HK general dental practitioners about the infection control guidelines set by the HKDA.

4. METHODS

4.1 Study population

In order to get respondents from a wide variety of dental professionals in our study, we used different selection methods.

1. Dentists from districts in HK (excluding outlying islands) were selected.

As there were 18 districts in HK (4 from HK island, 6 from Kowloon, and 8 from New Territories), we randomly selected 2, 3 and 4 districts from HK island, Kowloon and New territories respectively to do our survey. Those 9 districts were Yau Tsim, Wong Tai Sin, Sham Shui Po, Southern, Central & Western, Shatin, Taipo, Tsuen Wan and Kwai Tsing. From each district, 6 general dental practitioners (GDP) were randomly chosen from the Dental Council dentist list 1996 by stratified random sampling where the districts contributed the strata.

2. General dental practitioners were grouped within their respective district in ascending order by the number they are assigned in the Dentist's List 1996. Three dentists from each district were chosen to be in our target group for the infection control questionnaire. In order to reduce bias in our selection, the name of each dentist randomly selected from each district. A random number which corresponded to the dentist list was drawn from a formula by the computer program Microsoft Excel 5.0 = RAND ()*100. For example, the number 63 was drawn. We then located the 63rd dentist on the list, the second and the third dentist were chosen by the same procedure. Three more numbers were also chosen within each district to act as back ups, in the event that anyone of the first three dentists might not wish to participate in our study. The limited number chosen was determined due to time constraints and limited resources. All dentists selected were visited in their clinic by members of our group. Whenever a dentist was unavailable for a visit, the reserve dentists selected were approached.

A total number of 54 dentists were selected in our study.

3. Moreover, as the only dental hospital in Hong Kong, the Prince Philip Dental Hospital (PPDH) was investigated. At the time of the study, the PPDH had 5 departments (i.e. Children Dentistry & Orthodontics Department, Oral and

Maxillofacial Surgery Department, Department of Conservative Dentistry, Department of Prosthetic Dentistry and Department of Periodontology and Public Health) plus the Family Practice Clinic, which we then did separately by interviewing one dentist and the Senior DSA from that clinic.

4. In Guangzhou the same principle of dentist selection could not be applied, since there is a systematic difference between the two cities. In particular, the same scheme could not be applied in Guangzhou for the private sector which is presently not well-developed in Guangzhou. The Health department in Guangzhou could not be contacted. However, with the help of Professor Zhang from the Sun Yat-Sen Medical University Department of Oral Medicine, we set up appointments to visit two general dental practices, three government community clinics and two hospitals dental clinics. We were able to get a comparable impression of their infection control procedures.

4.2. Questionnaire

1. The questionnaire which was used both in those instances where interviews were taken (in Guangzhou and in PPDH) and for self completion (HK dentists) is placed at Appendix 1. The structure and content of the questionnaire was written according to:
 - (a) Infection control guidelines by the HKDA 1992^{4,5}
 - (b) Various relevant overseas references^{3, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17} were consulted, and lastly we received advice by Professor Samaranayake, Head of the Oral Biology Unit in the Faculty of Dentistry.
2. Dentists, operating dental surgery assistants, and dental students were chosen as they were the ones responsible for infection control procedures and prevention of cross-infection. Therefore, their vaccination status was important in order to determine the effectiveness of infection control procedures.
3. We were also interested in the number of years of practice. Infection control procedures adopted by some of the older or more 'senior' dentists might be different from those currently recommended.

4. Other than vaccination status, we also investigated various treatment procedures to prevent cross-infection. These were divided into sections: before patient treatment, during patient treatment, after patient treatment and clinical hygiene.
5. Finally, we investigated the methods used for aseptic storage, clinical hygiene, and relation to others, i.e. to what extent were procedures instituted to protect laboratories or to ensure safe waste disposal.

5. RESULTS

5.1 Comparison between dental hospitals of Guangzhou and Hong Kong

Six dentists from all departments of PPDH were interviewed and supplemental information from Senior DSAs was collected. Details concerning waste disposals was obtained from hospital inspectors.

In the Guangzhou (GZ) hospital, 2 interviews were conducted with dentists and 1 with a nurse who was the head of the sterilization department.

Details of the survey findings are presented in Appendix 2.

5.1.1 Vaccination status

1. Most dentists interviewed in the hospital of GZ and HK had received hepatitis B vaccinations. However, many were unclear whether they had received other vaccinations such as tetanus and TB.
2. More than half of the dentists interviewed in GZ and HK had maintained an up-to-date immunization record for himself, but less than half of them had done so for their staff.

5.1.2 Before patient treatment

1. One out of 3 respondents in GZ said that he would take an updated medical history at each patient visit, while all of our respondents in PPDH said that they would do so.
2. Two of our respondents in GZ disinfected prosthesis from the laboratory by glutaraldehyde and alcohol, which are the commonest disinfecting agents in GZ.

3. There was no disposable covering on the light switch, light handle, dental chair, handpiece nor on the 3-in-1 syringe in GZ. In PPDH, these are present in 2 of the departments. Nevertheless, it is proposed that other departments will follow suit in the near future despite fiscal difficulties.
4. It is a common practice in PPDH to minimize water contamination by allowing handpieces to discharge water for about 2 minutes at the beginning of the day. In GZ such a practice was not followed.

5.1.3 During patient treatment

1. The dentists and nurses in GZ said that they did not treat all patients as potentially infectious. However, for known infectious patients they would pay more attention to avoid cross-infection. Infectious cases were not arranged at the end of a session
2. In PPDH, all staff would treat all patients as potentially infectious and have special arrangements including room, covering and clothes for all known infectious patients.
3. Not all the respondents wore protective attire and used barrier techniques in GZ. 2 out of 3 respondents in GZ wore gloves when treating patients. The most common type of these were the “Latex” and “PVC” type. One of the clinical teachers mentioned that some of the dental students are not allowed to wear gloves because the ill-fitting gloves can cause accidental injuries.
4. In PPDH, all staff and students wore gloves & mask when treating patients and changed gloves between each patient. “Latex” is the most common type in the clinic and sterilized gloves is a must in minor surgery. Theater mask and “dome-shape” mask are also provided in the clinic.
5. Not all the dentists in GZ had protective eye wear when treating patient. In PPDH, wearing protective eye is required in all procedures.
6. In GZ, “Long sleeves” clinical clothing is the most common type worn during patient treatment.

7. In PPDH, both long and short sleeves are allowed to be worn in the clinic.
8. Although we saw a few treatment folders attached with X-ray films in GZ, we did not see anyone who took the X-ray film. As mentioned by the respondents, they did not wear gloves when processing X-ray film.
9. The dentists in GZ said that they would minimize formation of droplets, spatters and aerosols by suction. But it was rare for us to see them using high volume suction unit or saliva ejector. In PPDH, high volume suction and saliva ejector were used in most treatment procedures.
10. In GZ, all of them seldom used rubber dam for restorations and endodontic treatment. In PPDH, rubber dam was always required.
11. in GZ they used soap and tap water for washing their hands before gloving and they seldom used “hibiscrub” or other disinfectants. In PPDH, use of “hibiscrub” is required.
12. Concerning placing of the sharp items, all of the dentists in GZ and PPDH would recap the needles and place sharp items in puncture-proof containers.
13. A few of the respondents had a few (less than three times) sharp injuries last year.
14. In fact, there were some factors not allowing the dentists in GZ to improve their infection control, for example, they were required to treat more than 20 patients a day so there are only a few minutes provided for instrument changing and cleaning. Moreover, there is no “DSA” provided in their dental system, all the changing and cleaning procedure are shared by both dentists and nurses.

5.1.4 After patient treatment

1. In GZ, the contaminated instruments were cleaned by the use of tap water and brush most commonly. Occasionally detergent would be used for cleansing of the debris. They were rarely equipped with an ultrasonic cleaner for cleansing of the instruments. In PPDH, the instruments were cleaned by tap water , brush and detergent. Sometimes ultrasonic cleaner was used.

2. Owing to the limitation of resources, GZ rarely employ dental surgery assistants (DSA). Most of the cleansing procedures were done by ordinary workers. The workers cleaned the used instruments collected from various departments but they rarely used heavy duty rubber gloves provided by the hospital. Usually they wore used latex gloves or occasionally PVC gloves. In PPDH, the DSA is responsible for cleansing used instruments just after the treatment procedures. They usually wear latex gloves in the cleansing procedures. Heavy duty rubber gloves are used whenever sharp instruments are needed to be handled.
3. in GZ, the most commonly used sterilization procedure is autoclave. 2 out of 3 of our respondents used boiling water to sterilize the instruments. 1 out of 3 of our respondents used hot air oven as well as gas as sterilization.

With regard to the chemical disinfectant, the most popular chemical is glutaraldehyde. The second most common chemical disinfectant use is alcohol which account for 2/3 of our respondents.

In HK, all the sterilizable instruments will be sterilized by autoclave. Hot air oven may be used whenever it's necessary (e.g. if the autoclave is damaged!!) while PPDH is not equipped with gas sterilization.

4. 1 out of 3 of our respondents in GZ reused the injection needle and scalpel blade. The injection needle and scalpel blade were autoclaved before being reused. But in PPDH, all the injection needles and scalpel blades are disposed after use.
5. All the used 3-in-1 syringes, ultrasonic scalers and handpieces were disinfected between patients in GZ. Sterilization was not used. But in PPDH all of these instruments would be sterilized between patients except the 3-in-1 syringe.
6. In GZ, a lot of patients are treated everyday and therefore no time is allowed to decontaminate the clinical environment. They only swept the floor at the end of the day. Every week the floor would be cleaned by the use of detergent or chemical disinfectant. They rarely used protective covering. Even if they used protective covering, the covering was non-disposable. This covering was cleaned periodically. But in PPDH the clinical environment will be decontaminated between each patient by removal of the disposable covering, sweep underlined

surface with alcohol and change the protective covering afterwards. The working area is also decontaminated by the use of 2% glutaraldehyde.

7. Since the GZ respondents said that they rarely have an infectious case, they stated that no special precaution was necessary when handling infectious cases. They would just pay much more attention especially with regard to needle stick injury from known infectious patients. Therefore the surgery would not be closed for an hour after treating infectious case. But in PPDH, all the known infectious cases will be arranged as the last appointment of the day. After treating the infectious patient the contaminated area will be cleaned by the use of 2% glutaraldehyde. Then the surgery will be closed for an hour.

5.1.5 Aseptic storage

1. Two out of 3 of our respondents in GZ stored the sterilized instrument in a cleaned container. Some of the sterilized instruments were wrapped in a cleaned cloth before ready to use. Owing to high cost of the autoclave bags, they didn't employ the use of autoclaved bags. But in the HK hospital, all the sterilized instruments would be stored in a autoclaved bag or autoclaved container wrapped with paper and chemical indicator tape.

5.1.6 Clinical hygiene

1. During the sterilization procedures, the most common type of biological monitor used in GZ was a chemical indicator. They usually used it irregularly, varying from once a month to once every 6 months. They claimed that it was used to check whether the autoclave is working properly or not. This is under the supervision of the Health Department. They rarely used spore test to monitor sterilization. In PPDH, all the sterilization procedures are monitored by the chemical indicator, whenever sterilization procedure is carried out. Spore test was done periodically.
2. The suction unit was rarely flushed with non-foaming disinfecting agent. In HK the suction unit is flushed with non-foaming disinfecting agent daily at the end of the day.

3. In GZ, the suction tip was not sterilized but they usually cleaned it after use. Actually they rarely used suction unit. It was uncertain whether the surgery was set up to use the suction unit. A container was provided for the patient on the floor next to the dental chair to spit the dirty water into. In HK all the suction tips were sterilized by the use of autoclave before being reused.
4. The used impression trays were disinfected by using of 2% glutaraldehyde. No disposable impression trays were used.

In HK, all the impression trays were sterilized and occasionally disposable impression trays were used.

5.1.7 Relation to others

1. In GZ, there were no guidelines concerning the disinfection of impressions before sending it to the laboratory. In PPDH, 1 department (Department of Prosthetic Dentistry) and the Family Practice Clinic stated that all impressions taken must be disinfected.
2. Decontamination of prostheses before sending to the laboratory was neither a common practice in GZ nor in HK, communication of the infection control program to the laboratory was also absent, except in the Department of Prosthetic Dentistry in PPDH where labels are used to signify the disinfected impressions.
3. In GZ, liquid waste passed into a centralized filter pool and subsequently to the sewage system, which is checked by the Health Department twice a year. In PPDH, a centralized filter pool is also present in LG3, exhausted gas will then be released through a pipe running from the pool to the roof of the hospital.

5.2. General dental practice in Guangzhou and Hong Kong

We contacted all the 54 general dental practitioners who were selected in the 9 districts of Hong Kong (HK). 45 of them (83%) were successfully interviewed. In Guangzhou (GZ) interviews were conducted with 3 dentists and 2 DSAs.

5.2.1 Vaccination status

1. Almost all (93%) of the HK general dental practitioners kept an up-to-date immunization record for themselves and 93% of them had had the Hep B vaccine. The second most frequent vaccine among the GDP's in Hong Kong was the Diphtheria with 71%.
2. When it came to maintaining an up-to-date immunization record for their staff most of the answers came in the unclear column. For the DSA's the most frequent vaccine received was the Hep B. However, there were 31% of the DSA's who hadn't received the Hep B vaccine.
3. In Guangzhou, all of the dentists interviewed claimed they had had the Hep B vaccine. 2 out of 3 DSA's received the Hep B vaccination. The ones that did not receive the free of charge vaccinations were either not born in Guangzhou or belonged to the older age group. For the other vaccines such as MMR, Polio, TB, Tetanus, Whooping Cough, and Diphtheria, all of the respondents below the age 35 would have been immunized, because the government began free of charge immunization for school children born in Guangzhou.
4. 1 out of 2 dentists and DSA's in GZ interviewed kept an up to date immunization record.

5.2.2 Before patient treatment

1. In GZ, 4 out of 5 of the respondents took an up- to-date thorough medical history before patient treatment.
2. None of the dentists interviewed in GZ disinfected incoming prosthesis and appliances from the lab, they didn't have the concept of how to disinfect them.

3. No disposable coverings were ever noticed in any of the clinics.
4. More than half of the respondents in GZ, 3 out of 5, rinsed handpieces in water for two minutes at the beginning of the day. Some might rinse together with glutaraldehyde.
5. In HK, 89% of the GDP's took an updated thorough medical history before patient treatment. However, most respondents reported not to disinfect incoming prostheses and not to put disposable coverings on light switch, light handle, dental chair, handpiece and 3-in-1 syringe. 53% of the GDP's minimized water supply contamination by allowing handpieces to discharge water for two minutes at the beginning of each day.

5.2.3 During patient treatment

1. In HK, 82% of the respondents treated all patients as potentially infectious. Relatively the same happened in GZ, 4 out of 5 respondents treated their patients as potentially infectious.
2. But while in HK, 100% of the respondents wore protective attire and used barrier techniques by wearing gloves and masks, in Guangzhou, even though all respondents wore masks, only 2 out of 5 wore gloves. For those who wore gloves, 3 out of 5 wore PVC gloves, 1 out of 5 wore latex gloves, no sterilized gloves could be found in the Guangzhou clinics. In HK the most common type of gloves worn was latex, and the most common mask used was the theater type whereas in Guangzhou, 3 out of 5 wore paper masks and the rest wore reusable cotton masks. All of the HK GDPs wore protective uniforms and protective eye wear; whereas in GZ, all the dentists wore uniforms (3 out of 5 wore long sleeves lab. coats, the 2 out of 5 wore short sleeves uniforms).
3. Interesting to know that dentists and their patients in Guangzhou did not wear protective eye wears; they wore eyeglasses only because they had eye-sight problems.
4. In HK, 82% of the DSAs wore gloves when processing films as compared to Guangzhou clinics, where a slightly lower proportion, 3 out of 5 respondents, wore gloves.

5. In HK, most of the GDPs, 81%, used high volume suction and saliva ejectors to minimize formations of droplets, spatters and aerosols. However, in GZ only 1 out of 5 used high volume suctions, instead all used saliva ejectors.
6. Concerning the frequency of using rubber dam in HK during endodontic treatment 38% of the GDP always used rubber dam and 7% used it in about 50% of their cases, 31% used it occasionally and 27% never used any rubber dam. During amalgam restorations, 7% always used rubber dam. 13% used it in about 50% of their cases. 33% used it occasionally and 47% never used rubber dam. During composite / GI restorations, 4% always used rubber dam. 4% used it in about 50% of their cases. 27% used it occasionally and 67% never used rubber dam. With regard to chairside bleaching, 47% always used rubber dam, 15% used it sometimes whereas 38% never used it.
7. As compared to HK, only 1 out of 5 GZ practitioners sometimes used rubber dam to isolate teeth when performing RCT, restoration and bleaching, 4 out of 5 never used rubber dam. The GZ dentists in our survey thought that the use of rubber dam was simply wasting money while increasing clinical time unnecessarily.
8. In HK the most common disinfectant for washing hands before patient treatment was Hibiscrub (reported by 78% of the respondents), out of 6/45 used other disinfectants whereas in GZ, no disinfectant was used to wash hands. Four out of 5 respondents washed hands with soap and 1 out of 5 used tap water only.) Even though many HK dentists washed hands with disinfectants, 27% still used soap and 4% used tap water only.
9. For these respondents in HK, 87% changed gloves between patients as compared with GZ practitioners, and for those who wore gloves, 2 out of 5 changed gloves between every patient.
10. For the HK respondents we understood that 76% would wash gloves between patients, relatively the same proportion when compared to GZ, 4 out of 5 would also wash their hands/gloves between patients.
11. All dentists in HK discarded gloves if they were torn, cut or punctured, but 3 out of 5 respondents in GZ did the same thing. Respondents in HK recapped their needles after use whereas all 5 respondents in GZ did that. In assessing how

respondents would throw their sharp items, 82% of GDPs in HK would place them in puncture proof containers, whereas out of 2/5 respondents in GZ did so. The remaining 3 out of 5 dentists only put them in a special paper box of unlabelled plastic bags and then threw them as ordinary rubbish.

12. The same proportion among HK GDP and GZ, 60%, and 3 out of 5 respondents respectively, did not have any sharp injuries last year.
13. In HK, a majority 93% of the GDP's would not close the surgery for an hour after treating infectious cases, and only 40% would arrange all known infectious cases at the end of a session. 67% changed masks at least twice per session.
14. None of the practitioners interviewed in GZ would close their surgery for an hour after treating infectious cases because they said that they rarely had infectious patients. For the known infectious case, they would just pay more attention to the treatment of the patient. They also rarely changed mask between patients because they used the cotton type mask. Finally, after sterilization of instruments they just wrapped instruments up in clean cloths, not an autoclave bag. They believed that their infection control procedures are adequate.

5.2.4 After patient treatment

1. In HK 87% of the DSAs cleaned instruments with tap water and brushed before putting them into an autoclave, many used detergent and ultrasonic cleaner as well. But in Guangzhou, most of the cleaners only used brush and detergent and no ultrasonic cleaner was used.
2. Most DSAs and cleaners in HK and GZ used Latex rather than heavy duty rubber gloves when cleaning used instruments.
3. Many dentists in HK and most GZ dentists did not arrange all known infectious cases at the end of a session. HK dentists did not do that because they claimed that they treated all their patients as potentially infectious. However, GZ dentists claimed that having too many patients per day was the major limiting factor.

4. Around 60% of HK dentists would change masks at least twice per session but GZ dentists rarely changed masks between patients.
5. In both GZ (80%) and HK (98%) autoclave was used to sterilize instruments. 2 out of 3 of respondents in GZ used hot air oven while 22% in HK used hot air oven.
6. In GZ, they seldom used alcohol for disinfection. Most of them used glutaraldehyde (67%) and hypochlorite. In HK, glutaraldehyde was the most popular product (80%). The second most common chemical was alcohol (51%), and 10 out of 45 respondents also used hypochlorite as well.
7. In our survey , none of the respondents in GZ reused injection needles, unused portion of cartilage nor suture. 2 out of 3 of them claimed that they reused suture needle and scalpel blade respectively. The suture needle and scalpel blade were either autoclaved or disinfected by 20% glutaldehyde before reuse. In HK GDP, one claimed that they reused injection needle, scalpel blade and unused part of cartilage separately. However , 9 out of 45 would reuse suture needle. The suture needle would then be autoclaved.
8. All respondents in GZ claimed that that they would disinfect 3-in-1 syringe between each patient. Most of HK respondents claimed that they disinfect 3-in-1 syringe between each patient (60%). The rest would clean only (16%) and sterilize (29%)
9. GZ practitioners only wipe work surfaces with paper towel to remove debris. Only one of them disinfected the surfaces with a suitable chemical disinfectant. There was one who only changed protective coverings. Most of HK GDP used chemical disinfect to decontaminate working surfaces (51%). Besides, some (33%) will change protective covering.
10. All GZ practitioners disinfected protective clothing by automatic washing machine set in the hottest wash while only 29% of HK GDP interviewed used the hottest wash.

5.2.5 Aseptic storage

Some 71% GDP store their sterilized instruments in autoclave bags.

5.2.6 Clinical hygiene

1. Practitioners in GZ rarely used chemical indicator to monitor sterilization (40%). One of our respondents used it once a month. Some of them used it whenever there was a visit by the health department. Nobody used spore test to monitor sterilization. Meanwhile, it was common to use chemical indicator (42%) and it was not common to have spore test (7%) in HK.
2. None of the respondents in GZ flushed the suction unit with non-foaming disinfecting agent. In HK only 3 out of 45 never flushed the suction unit. The rest flushed the unit daily (40%), weekly (20%) and monthly (33%).
3. None of the GZ respondents sterilized the suction tip. They usually disinfected the suction tip by use of 20% glutaldehyde or alcohol. Only 3 out of HK respondents (7%) did not use sterilized or disposable suction tip.
4. All GZ respondents used metal impression trays instead of disposable trays. Some of them even disinfected the impression tray by exposing it under sunlight only. However, 47% out of 45 HK GDP use disposable impression tray.
5. Accordingly , 4 out of 5 respondents in GZ disinfected the ultrasonic scaler and used handpiece between each patient. Most of HK GDP sterilized ultrasonic scaler (73%) and used handpiece (58%) between each patient . The rest disinfected ultrasonic scaler and used handpiece

5.2.7 Relation to others

1. 91% of HK GDP were aware of the infection control guidelines from the HKDA, and 67% thought that their infection control procedures were sufficient.

2. GZ practitioners rarely disinfected the contaminated impression and prosthesis before sending to the laboratory. They usually rinsed the impression or prosthesis whenever it was contaminated with blood. In HK, Some GDP (80%) rinsed them with tap water and some disinfected the contaminated impression (20%) and prosthesis (33%).
3. Most of GZ practitioners did not have an infection control program communicated between dentist and dental laboratory. Some (33%) of the HK GDP communicated their infection control program to the dental lab.
4. All 5 GZ dentists removed the contaminated liquid waste by ordinary sewage without any treatment. 3 out of 5 did not place solid waste contaminated with blood/saliva in sealed imperious bags. Because of convenience, some dentists/assistants just threw water out of the window. In HK, all of the GDPs interviewed flushed liquid waste down the drain and through the local sewage system. Some (64%) of them placed solid waste contaminated with blood or saliva in sealed imperious bags.

6. DISCUSSION

In Hong Kong we were able to utilize stratified random sampling technique to generate names of dentists to interview. The names and addresses of the dentists were taken directly from the Dentists' list by the HKDA. In GZ, the visits to hospitals and private practitioners were organised by Professor Zhang, who is the professor of Oral Medicine in the Sun Yat-Sen Medical University. We were unable to get a list of practitioners in Guangzhou, because there is not yet a formal reporting system. It is uncertain to what extent bias and errors were introduced in our results.

We were unable to visit more dentists due to time and resource constraints.

Personal interviews were conducted whenever possible, but these took up a lot of time. Moreover by visiting the various clinics, we were able to get a first-hand view of the clinic proper. This is not possible from telephone interviews. Moreover we expect that some of the dentists' answers may have been misreported, however we cannot indicate a precise level of bias and error.

HKDA guidelines were used as our standard. Quite a number of the dentists in HK (>50%) were unaware of these guidelines.

The dentists in Guangzhou were not following any guidelines as there were none to be found.

7. RECOMMENDATIONS AND CONCLUSIONS

- There should be a greater awareness of infection control measures amongst dentists.
- The Hong Kong Dental Association must suggest further ways to dispose of solid wastes and blood contaminates.
- The Hong Kong Dental Council must check private clinics regularly to evaluate the adequacy of infection control procedures, and perhaps, come up with their own guidelines.
- The Hong Kong Dental Association guidelines are adequate. They may not be so practical due to time and resource constraints, e.g. closing the surgery after treating known infectious case. Government needs to provide funding for infection control procedures.
- Hospitals in Guangzhou should also come up with their own guidelines and dental students should be thoroughly aware of these guidelines before they start practice.
- Based on our findings we would recommend our patients in Hong Kong to carefully examine the infection control procedures in place before they decide to go to Guangzhou for dental treatment.

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Public Health Project Questionnaire

DENTAL HEALTH WORKERS

- * Dentist
- * Dental Student
- * Hygienist
- * D.S.A.
- * Technicians

SEX:

M / F

AGE:

YEARS OF PRACTICE:

A/ VACCINATION STATUS

	1. Hepatitis B	2. MMR	3. Polio	4. TB	5. Tetanus	6. Whooping Cough	7. Diphtheri a
Dentist	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No
DSA	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No
	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No

1. Do you maintain an up-to-date immunization record for yourself?

Yes/No

2. Do you maintain an up-to-date immunization record for your staff?

Yes/No

B/ BEFORE PATIENT TREATMENT

1. Do you take an updated thorough medical history of the patient?

Yes/No

2. Do you disinfect incoming prosthesis and appliance from the lab?

Yes/No

3. Do you put disposable coverings on:

- a) Light switch?
- b) Light handle?
- c) Dental chair?
- d) Handpiece?
- e) 3-in-1 syringe?

Yes/No
Yes/No
Yes/No
Yes/No
Yes/No

4. Do you minimize water supply contamination by allowing handpieces to discharge water for 2 minutes at the beginning of the day? Yes/No

C/ DURING PATIENT TREATMENT

1. Do you treat all patients as potentially infectious? Yes/No

2. Do you wear protective attire and use barrier techniques by

1. Gloves? Yes/No

a) Sterilized Yes/No

b) Latex Yes/No

c) PVC Yes/No

d) Heavy duty rubber gloves Yes/No

e) Others

2. Masks? Yes/No

a) Paper Yes/No

b) Theatre Yes/No

c) Dome type Yes/No

d) Others

3. Protective eye wear? Yes/No

4. Uniform / Lab coat? Yes/No

a) Long sleeves? Yes/No

b) Short sleeves? Yes/No

3. Do you wear gloves when processing X-ray film? Yes/No

4. Do you minimize formation of droplets, spatters, aerosols by:

a) Use of high volume suction? Yes/No

b) Use of saliva ejector? Yes/No

5. Do you use rubber dam to isolate teeth when performing:
- a) Endodontics?
 - b) Restorations?
 - i) Composite / GI
 - ii) Amalgam
 - iii)
 - c) Bleaching?

100%	50%	Some-times	never
100%	50%	Some-times	never
100%	50%	Some-times	never
100%	50%	Some-times	never
100%	50%	Some-times	never

6. Do you wash your hands before gloving by using

- a) Soap?
- b) Hibiscrub?
- c) Tap water only?
- d) Other disinfectants?

Yes/No
Yes/No
Yes/No

7. a. Do you change gloves between every patient?
 b. If not, do you wash your gloves between patients?

Yes/No
Yes/No

8. Do you discard any glove that is torn, cut or punctured?

Yes/No

9. Do you avoid injuries from sharp instruments and needles by:

- a) recap your needles?
- b) place sharp items in puncture-proof containers?

Yes/No
Yes/No

10. How many sharp (by burs or needles, etc) injuries have you had in the last year?

- a) 0
- b) 1-3
- c) 4-7
- d)more than 7

11. Do you arrange all known infectious cases at the end of a session?

Yes/No

12. Do you change your mask at least twice per session?

Yes/No

D/ AFTER PATIENT TX.

1. Do you clean instruments thoroughly by using:	a) Tap water? b) Ultrasonic cleaner? c) Detergent? d) Brush? e) Other agents?	<table border="1"> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td></td></tr> </table>	Yes/No	Yes/No	Yes/No	Yes/No					
Yes/No											
Yes/No											
Yes/No											
Yes/No											
2. Do you wear heavy duty rubber gloves when cleaning used instruments?		<table border="1"> <tr><td>Yes/No</td></tr> </table>	Yes/No								
Yes/No											
3. Do you sterilize or disinfect instruments by using:	1. Autoclave? 2. Hot air oven? 3. Gas? (e.g. ethylene oxide) 4. Boiling water? 5. Chemicals or disinfectant? Others?	a) Hypochlorite b) Alcohol c) Glutaraldehyde d) Others Please specify:	<table border="1"> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td></td></tr> <tr><td></td></tr> </table>	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No		
Yes/No											
Yes/No											
Yes/No											
Yes/No											
Yes/No											
Yes/No											
4 Do you re-use:	a) Injection needle? b) Suture needle? c) Scapel blade? d) Unused portion of cartridge? e) Suture?	<table border="1"> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> </table>	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No				
Yes/No											
Yes/No											
Yes/No											
Yes/No											
Yes/No											
5 What will you do after use of 3-in-1 syringes between each patient?	a) Clean b) Disinfect c) Sterilize	<table border="1"> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> </table>	Yes/No	Yes/No	Yes/No						
Yes/No											
Yes/No											
Yes/No											
6 What will you do after use of ultrasonic scaler between each patient?	a) Clean b) Disinfect c) Sterilize	<table border="1"> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> </table>	Yes/No	Yes/No	Yes/No						
Yes/No											
Yes/No											
Yes/No											
7.What will you do after use of handpiece between each patient?	a) Clean b) Disinfect c) Sterilize	<table border="1"> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> <tr><td>Yes/No</td></tr> </table>	Yes/No	Yes/No	Yes/No						
Yes/No											
Yes/No											
Yes/No											

8. Do you decontaminate environmental surfaces by:

- a) Wiping work surfaces with paper towel to remove debris?
- b) Disinfect with suitable chemical disinfectant? (e.g. alcohol)
- c) Change protective coverings?

Yes/No
Yes/No
Yes/No

9. Do you close the surgery for an hour after treating infectious case?

Yes/No

E. Clinical Hygiene:

- 1. Do you use biological monitors to monitor sterilization, e.g.:
 - a) Spore test?
 - b) Chemical indicator tape?
 - c) Others?

Yes/No
Yes/No

2. How often do you flush the suction unit with non-foaming disinfecting agent?

Daily
Weekly
Monthly
Never

3. Do you use sterilized / disposable suction tip?

Yes/No

4. Do you use disposable impression tray?

Yes/No

5. Do you disinfect impression tray?

Yes/No

6. Do you disinfect protective clothing by automatic washing machine set on the hottest wash (95 °C)?

Yes/No

7. Do you store your sterilized instruments appropriately by e.g. in autoclave bags?

Yes/No

F. OTHERS:

This question is for Hong Kong Dentists Only:

- 1. Are you aware of the infection control guidelines from the HKDA?
- 2. Do you think your infection control procedures is sufficient?

Yes/No

Yes/No

G: Relationships to Others

1. Do you decontaminate impressions by:	a) Rinse with tap water only?	Yes/No
	b) Disinfectant? (e.g. Hypochlorite or alcohol)	Yes/No
2. Do you decontaminate prosthesis before sending to the laboratory?	a) Rinse with tap water only?	Yes/No
	b) Disinfectant? (e.g. Hypochlorite or alcohol)	Yes/No
3. Do you communicate infection control program to dental laboratory?		Yes/No
4. How do you remove contaminated wastes appropriately:	a) Liquid waste:	
	b) Place solid waste contaminated with blood or saliva in sealed impervious bags?	Yes/No
	c) Others:	

Public Health Project Questionnaire: Summary Report

Key: HKG: Hong Kong GDP
GDC: Guangzhou Dental Clinic
GDH: Guangzhou Dental Hospital
PPDH: Prince Philip Dental Hospital

Dental Health Workers:

	HKG:	GDH:	GDC:	PPDH
Dentist	45	2	3	6
Dental Student	0	0	0	0
DSA	0	1	2	6

Sex:

	HKG:	GDH:	GDC:	PPDH:
M	40	1	3	6
F	5	2	2	6

Years of Practice:

	HKG:	GDH:	GDC:	PPDH:
0-5	9	1	1	-
6-10	15	1	0	-
11-15	12	1	2	-
16-20	3	0	2	-
>20	6	0	0	-

A: Vaccination Status

1:	2:	3:	4:	5:	6:	7:
Hepatitis B	MMR	Polio	TB	Tetanus	Whooping Cough	Diphtheria

Dentist

	Yes				No				Unclear			
	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1	42	3	5	5	3	0	0	0	0	0	0	1
2	21	2	3	1	21	1	2	1	3	0	0	4
3	26	1	1	4	17	2	4	0	2	0	0	2
4	29	1	1	3	13	2	4	0	3	0	0	3
5	30	1	1	4	14	2	4	0	1	0	0	2
6	29	1	1	2	15	2	4	1	1	0	0	3
7	32	0	1	2	9	3	4	1	4	0	0	3

DSA

	Yes				No				Unclear			
	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1	19	0	2	3	15	3	1	1	11	0	0	2
2	8	0	1	2	10	3	1	1	27	0	0	3
3	8	0	1	1	5	3	1	1	32	0	0	4
4	9	0	1	2	6	3	1	2	30	0	0	2
5	6	0	1	2	7	3	1	2	32	0	0	2
6	7	0	1	1	6	3	1	2	32	0	0	3
7	7	0	1	0	6	3	1	2	32	0	0	4

1. Do you maintain an up to date immunization record for you?
2. Do you maintain an up to date immunization record for your staff?

	Yes				No				Unclear			
	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1	42	2	3	4	3	1	2	1	0	0	0	1
2	3	0	3	1	42	3	2	5	0	0	0	0

B: Before patient treatment

1. Do you take thorough medical history by ask for patient's present health status?

Yes/No

2. Do you disinfect incoming prosthesis and appliance from lab?

Yes/No

3. Do you put disposable covering on:

a) Light switch?

Yes/No

b) Light handle?

Yes/No

c) Dental chair?

Yes/No

d) Handpiece?

Yes/No

e) 3-in-1 syringe?

Yes/No

4. Do you try to minimize water supple contamination by allowing handpieces to discharge water for 2 minutes at the beginning of the day?

Yes/No

		Yes				No				Unknown			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1		40	0	4	6	5	0	1	0	0	0	0	0
2		15	2	0	3	30	0	5	3	0	0	0	0
3	a)	12	0	0	2	33	0	5	3	0	0	0	1
	b)	15	0	0	3	30	0	5	2	0	0	0	1
	c)	13	0	0	3	32	0	5	2	0	0	0	1
	d)	12	0	0	3	33	0	5	2	0	0	0	1
	e)	16	0	0	2	29	0	5	3	0	0	0	1
4		24	1	3	6	21	2	2	0	0	0	0	0

C/ DURING PATIENT TREATMENT

1. Do you treat all patient as potentially infectious?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1		38	1	4	4	7	2	1	2

2. Do you wear protective attire and barrier techniques by

1. Gloves?

- a) Sterilized
- b) Latex
- c) PVC
- d) Heavy duty rubber gloves

2. Masks?

- a) Paper
- b) Theatre, dome type?
- c) Others

3. Protective eye wear?

4. Uniform / Lab coat?

a) Long sleeves?

b) Short sleeves?

Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No

Yes/No
Yes/No
Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1		38	1	4	4	7	2	1	2
2	1)	45	2	2	6	0	1	3	0
	a	19	0	0	1	26	3	5	5
	b	42	2	1	6	3	1	4	0
	c	3	2	3	0	42	1	2	6
	d	9	0	0	1	36	3	5	5
	2)	45	3	5	6	0	0	0	0
	a	10	3	3	2	35	0	2	4
	b	32	0	0	5	13	3	5	2
	c	10	0	0	0	35	3	5	6
	3)	42	2	3	6	3	1	2	0
	4)	42	3	5	6	3	0	0	0
	a	30	3	3	3	15	0	2	3
	b	16	0	1	5	29	3	4	1

3. Do You wear gloves when processing X-ray film?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
3		38	0	3	5	7	3	2	0

4. Do you minimize formation of droplets, spatters, aerosols by:

a) Use of high volume suction?

Yes/No

b) Use of salivary ejector?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PP DH
4	a	41	2	1	6	4	1	4	0
	b	41	2	5	6	4	1	0	0

5.

Do you use rubber dam to isolate teeth when performing:

a) Endodontics?

b) Restorations?

i) Composite / GI

ii) Amalgam

c) Bleaching?

100%	50%	Some-times	never
100%	50%	Some-times	never
100%	50%	Some-times	never
100%	50%	Some-times	never

5

	a)				b) i				b) ii			
	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
100%	16	0	0	5	3	0	0	2	1	0	0	2
50 %	3	0	0	0	6	0	0	2	1	0	0	2
Some-times	14	0	1	0	15	0	1	1	12	0	1	1
Never	12	3	4	0	21	3	4	0	31	3	4	0

		c)			
		HKG	GDH	GDC	PPD H
100%		21	0	0	4
50 %		1	0	0	0
Some-		6	0	1	0

times				
Never	17	3	4	0

6. Do you wash your hands before gloving by using

a) Soap?

Yes/No

b) Hibiscrub?

Yes/No

c) Tap water only?

Yes/No

7. a. Do you change gloves between every patient?

Yes/No

b. If not, do you wash your gloves between patients?

Yes/No

		Yes				No				Unknown			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
6	a)	12	2	4	1	33	1	1	5	0	0	0	0
	b)	32	0	0	6	13	3	5	0	0	0	0	0
	c)	7	1	2	0	38	2	3	6	0	0	0	0
7	a)	39	2	2	4	6	1	3	2	0	0	0	0
	b)	4	0	3	2	41	3	1	4	0	0	0	0

8. Do you discard any glove that is torn, cut or punctured?

Yes/No

9. Do you avoid injuries from sharp instruments and needles by:

a) recap your needles?

Yes/No

b) place sharp items in puncture-proof containers?

Yes/No

		Yes				No				Unknown			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
8		45	3	3	6	0	0	2	0	0	0	0	0
9	a	44	3	5	5	1	0	0	1	0	0	0	0
		38	1	2	6	7	2	3	0	0	0	0	0

10. How many sharp (by burs or needles, etc) injuries have you had in the last year?

a) 0

b) 1-3

c) 4-7

d) more than 7

		Yes				No				Unknown			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
10	a)	21	1	3	4	24	2	0	2	0	0	1	0
	b)	16	2	1	2	29	1	2	4	0	0	1	0
	c)	0	0	0	0	45	3	2	6	0	0	1	0
	d)	1	0	0	0	44	3	2	6	0	0	1	0

11. Do you arrange all known infectious cases at the end of a session?

Yes/No

12. Do you change your mask at least twice per session?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
11		18	0	0	6	27	3	5	0
12		30	0	0	4	15	3	5	2

D: After Patient Tx:

1. Do you clean instruments thoroughly by using:

a) Tap water?

Yes/No

b) Ultrasonic cleaner?

Yes/No

c) Detergent?

Yes/No

d) Brush?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1	a)	39	1	4	5	6	2	1	1
	b)	23	0	0	5	22	3	5	1
	c)	23	1	2	6	22	2	3	0
	d)	38	1	4	6	7	2	1	0

2. Do you wear heavy duty rubber gloves when cleaning used instruments?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
2		24	1	3	5	21	2	2	1

3. Do you sterilize or disinfect instruments by using:

1. Autoclave?
2. Hot air oven?
3. Gas? (e.g. ethylene oxide)
4. Boiling water?
5. Chemicals or disinfectant?
 - a) Hypochlorite
 - b) Alcohol
 - c) Glutaraldehyde
 - d) Others

Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H

3	1)	44	3	4	6	1	0	1	0
	2)	7	1	2	6	38	2	3	0
	3)	0	1	0	0	45	2	5	6
	4)	0	2	1	0	45	1	4	6
	5:								
	a)	10	0	1	4	35	3	4	2
	b)	23	2	0	3	22	3	5	3
	c)	36	3	2	6	9	1	3	0
	d)	1	0	1	0	44	3	2	4

4. Do you re-use:

- a) Injection needle?
- b) Suture needle?
- c) Scalpel blade?
- d) Unused portion of cartridge?
- e) Suture?

Yes/No
Yes/No
Yes/No
Yes/No
Yes/No

5. What will you do after use of 3-in-1 syringes between each patient?

- a) Clean
- b) Disinfect
- c) Sterilize

Yes/No
Yes/No
Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H

4	a)	1	1	0	0	44	2	5	6
---	----	---	---	---	---	----	---	---	---

b)	9	0	2	0	36	3	3	6
c)	1	1	3	0	44	2	2	6
d)	1	0	0	0	44	3	5	6
e)	0	0	0	0	45	3	5	6

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H

5	a)	7	1	0	2	38	2	5	4
	b)	27	2	5	1	18	1	0	5
	c)	13	0	0	6	32	3	5	0

6. What will you do after use of ultrasonic scaler between each patient?

- a) Clean
b) Disinfect
c) Sterilize

Yes/No
Yes/No
Yes/No

7. What will you do after use of handpiece between each patient?

- a) Clean
b) Disinfect
c) Sterilize

Yes/No
Yes/No
Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H

6	a)	0	0	0	0	45	3	5	5
	b)	12	3	5	0	33	0	0	5
	c)	33	1	0	5	12	2	5	0
7	a)	0	0	1	0	45	3	4	6
	b)	19	3	4	0	26	0	1	6
	c)	26	1	0	6	19	2	5	0

8. Do you decontaminate environmental surfaces by:

- a) Wiping work surfaces with paper towel to remove debris?
b) Disinfect with suitable chemical disinfectant? (e.g. alcohol)
c) Change protective coverings?

Yes/No
Yes/No
Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H

8	a)	7	1	2	5	38	2	3	1
	b)	23	1	1	6	22	2	4	0
	c)	15	0	0	4	30	3	5	2

9. Do you close the surgery for an hour after treating infectious case?

Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
9		3	0	1	6	42	3	4	0

E. Clinical Hygiene

1. Do you use biological monitors to monitor sterilization, e.g.:

a) Spore test?

b) Chemical indicator tape?

Yes/No

Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H

1	a)	3	1	0	6	42	2	5	0
	b)	19	2	2	5	26	1	3	1

2. How often do you flush the suction unit with non-foaming disinfecting agent?

Daily

Weekly

Monthly

Never

		HKG	GDH	GDC	PPDH
2	Daily	18	0	1	2
	Weekly	9	1	1	4
	Monthly	15	0	0	0
	Never	3	3	3	0

3. Do you use sterilized / disposable suction tip?

Yes/No

4. Do you use disposable impression tray?

Yes/No

5. Do you disinfect impression tray?

Yes/No

Yes

No

		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
3		42	1	1	6	3	2	4	0
4		21	0	0	4	24	3	5	2
5		38	2	5	4	7	1	0	2

6. Do you disinfect protective clothing by automatic washing machine set on the hottest wash (95 °C)?

Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
6		13	2	1		32	1	3	

7. Do you store your sterilized instruments appropriately by e.g. in autoclave bags?

Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
7		32	2	1	6	13	1	4	0

F. Others:

This question is for Hong Kong Dentists Only:

1. Are you aware of the infection control guidelines from the HKDA?

Yes/No

2. Do you think your infection control procedures is sufficient?

Yes/No

Yes					No				
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPDH
1		27	/	/	4	18	/	/	2
2		30	/	/	4	15	/	/	2

G: Relationships to Others

1. Do you decontaminate impressions by:

a) Rinse with tap water only?

Yes/No

b) Disinfectant? (e.g. Hypochlorite or alcohol)

Yes/No

2. Do you decontaminate prosthesis before sending to the laboratory?

a) Rinse with tap water only?

Yes/No

b) Disinfectant? (e.g.

Yes/No

Hypochlorite or alcohol)

3. Do you communicate infection control program to dental laboratory?

Yes/No

4. How do you remove contaminated wastes appropriately:

a) Liquid waste:

b) Place solid waste contaminated with blood or saliva in sealed impervious bags?

Yes/No

		Yes				No			
		HKG	GDH	GDC	PPD H	HKG	GDH	GDC	PPD H
1	a)	39	3	5	5	6	0	0	1
	b)	12	0	1	2	33	3	4	4
2	a)	36	2	4	2	9	1	0	4
	b)	9	0	0	2	36	3	4	4
3		15	0	1	4	30	3	4	1
4	a)	0	0	0	4	0	0	0	0
	b)	29	0	1	2	16	3	4	1